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# EXPRESS MAIL CERTIFICATE

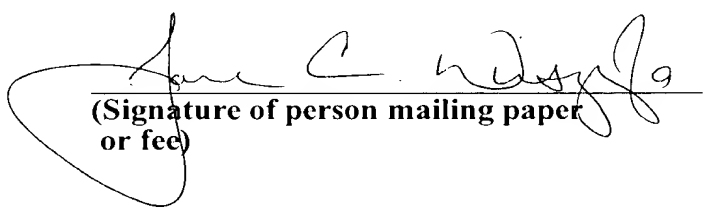
DOCKET NO.: 19603/3356 (CRF D-1595F)  
APPLICANTS: Francis Barany, George Barany, Robert P. Hammer,  
Maria Kempe, Herman Blok, and Monib Zirvi  
TITLE: DETECTION OF NUCLEIC ACID SEQUENCE  
DIFFERENCES USING THE LIGASE DETECTION  
REACTION WITH ADDRESSABLE ARRAYS

Certificate is attached to the **Information Disclosure Statement (1 page)** and  
**PTO-1449 Form (8 pages)** (in duplicate) with **84 references** (references not attached) of  
the above-named application.

EXPRESS MAIL NUMBER: EL710758050US  
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Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date  
indicated above and is addressed to the Commissioner for Patents, Washington, D.C. 20231,  
Box: Patent Application.

Jane C. Wirszyła  
(Typed or printed name of person  
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or fee)

PATENT  
Docket No.: 19603/3356 (CRF D-1595F)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) :	Barany et al.	)	Examiner:
		)	To Be Assigned
Serial No. :	To Be Assigned	)	
		)	Art Unit:
Cnfrm. No. :	To Be Assigned	)	To Be Assigned
		)	
Filed :	Herewith	)	
		)	
For :	DETECTION OF NUCLEIC ACID SEQUENCE	)	
	DIFFERENCES USING THE LIGASE	)	
	DETECTION REACTION WITH	)	
	ADDRESSABLE ARRAYS	)	

INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR §§ 1.97-1.98

Commissioner for Patents  
Washington, D.C. 20231  
**Box: Patent Application**

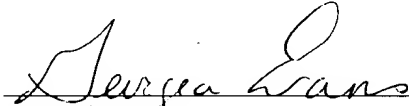
Dear Sir:

Pursuant to 37 CFR §§ 1.97-1.98, applicants hereby bring to the attention of the United States Patent and Trademark Office ("PTO"), the references listed on the attached PTO-1449 form.

Pursuant to 37 CFR § 1.98(d), the references identified on the attached PTO-1449 form are not provided, because these references either were previously cited by or submitted to the PTO in parent U.S. Patent Application Serial No. 08/794,851, filed February 4, 1997, of which this application claims priority under 35 USC § 120.

Respectfully submitted,

Date: September 26, 2001

  
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	10	WO 92/10588	25-JUN-92	Europe			
	11	WO 92/16655	1-OCT-92	PCT			
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		29	Kim et al., "Polymeric Self-Assembled Monolayers. 2. Synthesis and Characterization of Self-Assembled Polydiacetylene Mono- and Multilayers," <u>J. Am. Chem. Soc.</u> , 117:3963-3967 (1995)
		30	Lauer et al., "Cloning, Nucleotide Sequence, and Engineered Expression of <i>Thermus thermophilus</i> DNA Ligase, a Homolog of <i>Escherichia coli</i> DNA Ligase," <u>Journal of Bacteriology</u> , 173(16):5047-5053 (1991)
		31	Barany et al., "Cloning, Overexpression and Nucleotide Sequence of a Thermostable DNA Ligase-Encoding Gene," <u>Gene</u> , 109:1-11 (1991)
		32	Jou et al., "Deletion Detection in the Dystrophin Gene by Multiplex Gap Ligase Chain Reaction and Immunochromatographic Strip Technology," <u>Human Mutation</u> , 5:86-93 (1995)
		33	Chan et al., "Polymeric Self-Assembled Monolayers. 3. Pattern Transfer by Use of Photolithography, Electrochemical Methods, and an Ultrathin, Self-Assembled Diacetylenic Resist," <u>J. Am. Chem. Soc.</u> , 117:5875-5976 (1995)

EXAMINER

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	34	5,412,087	05/02/95	McGall et al.			
	35	4,883,750	11/28/89	Whiteley et al.			
	36	4,683,202	07/28/87	Mullis et al.			
	37	5,744,305	04/28/98	Fodor et al.			
	38	5,695,934	12/09/97	Brenner			
	39	5,981,176	11/09/99	Wallace			
	40	5,415,839	5/16/95	Zaun et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRAN- SLATION IF APPRO- PRIATE
	41	WO 94/09022	04/28/94	WO			
	42	WO 90/11372	4/1990	WO			
	43	WO 93/25563	12/1993	WO			

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

7

		44	Munkholm et al., "Polymer Modification of Fiber Optic Chemical Sensors as a Method of Enhancing Fluorescence Signal for pH Measurement," <u>Anal. Chem.</u> , 58:1427-1430 (1986)
		45	Graham et al., "Gene Probe Assays on a Fibre-Optic Evanescent Wave Biosensor," <u>Biosensors &amp; Bioelectronics</u> , 7:487-493 (1992)
		46	Chetverin et al., "Sequencing of Pools of Nucleic Acids on Oligonucleotide Arrays," <u>BioSystems</u> , 30:215-231 (1993)
		47	Pease et al., "Light-Generated Oligonucleotide Arrays for Rapid DNA Sequence Analysis," <u>Proc. Natl. Acad. Sci. USA</u> , 91:5022-5026 (1994)
		48	Beattie et al., "Advances in Genosensor Research," <u>Clin. Chem.</u> , 41(5) 700-706 (1995)

EXAMINER

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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPRO- PRIATE
	49	5,834,181	11/10/98	Shuber			
	50	5,648,213	7/15/97	Reddy et al.			
	51	5,667,974	9/16/97	Brikenmeyer			
	52	5,391,480	2/21/95	Davis et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANS- LATION IF APPRO- PRIATE

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

		53	Bains, "Mixed Hybridization and Conventional Strategies for DNA Sequencing," <u>Gata</u> , 10(3-4):84-94 (1993)
		54	Kuznetsova et al., "DNA Sequencing by Hybridization with Oligonucleotides Immobilized in a Gel," <u>Mol. Biol. (Mosk)</u> (Russia), 28(2):290-299
		55	Lysov et al., "Measurement of Distances Between DNA Segments Increases the Efficiency of Sequencing by Hybridization with Oligonucleotide Matrix," <u>Molecular Biology</u> , 28(3):433-436 (1994)
		56	Livshits et al., "Dissociation of Duplexes Formed by Hybridization of DNA with Gel-Immobilized Oligonucleotides," <u>Journal of Biomolecular Structure &amp; Dynamics</u> , 11(4):783-812 (1994)
		57	Davis et al., "Quantitative Detection of Hepatitis C Virus RNA With a Solid-phase Signal Amplification Method: Definition of Optimal Conditions for Specimen Collection and Clinical Application in Interferon-treated Patients," <u>Hepatology</u> , 19(6):1337-1341 (1994)
		58	Urdea, "Synthesis and Characterization of Branched DNA (bDNA) for the Direct and Quantitative Detection of CMV, HBV, HCV, and HIV," <u>Clinical Chemistry</u> , 39(4):725-726 (1993)
		59	Reynolds et al., "Analysis of Genetic Markers in Forensic DNA Samples Using the Polymerase Chain Reaction," <u>Anal. Chem.</u> , 63:2-15 (1991))

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	60	6,027,889	2/22/00	Barany et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANS- LATION IF APPRO- PRIATE

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

		61	Buyse et al., "Rapid DNA Typing of Class II HLA Antigens Using the Polymerase Chain Reaction and Reverse Dot Blot Hybridization," <u>Tissue Antigens</u> , 41:1-14 (1993)
		62	Gyllenstein et al., "PCR-Based HLA Class II Typing," <u>PCR Meth. Appl.</u> , 1:91-98 (1991)
		63	Chamberlain et al., "Deletion Screening of the Duchenne Muscular Dystrophy Locus Via Multiplex DNA Amplification," <u>Nucleic Acids Res.</u> , 16:11141-56 (1988)
		64	Tsui, Mutations and Sequence Variations Detected in the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Gene: A Report From the Cystic Fibrosis Genetic Analysis Consortium," <u>Human Mutat.</u> , 1:197-203 (1992)
		65	Hollstein et al., "p53 Mutations in Human Cancers," <u>Science</u> , 253:49-53 (1991)
		66	Saiki, et al., "Enzymatic Amplification of $\beta$ -Globin Genomic Sequences and Restriction Site Analysis for Diagnosis of Sickle Cell Anemia," <u>Science</u> , 230:1350 (1985)
		67	Wu, et al., "The Ligation Amplification Reaction (LAR) -- Amplification of Specific DNA Sequences Using Sequential Rounds of Template-Dependent Ligation," <u>Genomics</u> , 4:560-69 (1989)
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## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

		68	Landegren, et al., "A Ligase-Mediated Gene Detection Technique," <u>Science</u> , 241:1077-80 (1988)
		69	Winn-Deen, et al., "Sensitive Fluorescence Method for Detecting DNA Ligation Amplification Products," <u>Clinical Chemistry</u> , 37(9):1522-23 (1991)
		70	Barany, "Genetic Disease Detection and DNA Amplification Using Cloned Thermostable Ligase," <u>Proc. Nat'l Acad. Sci. USA</u> , 88:189-93 (1991)
		71	Barany, "The Ligase Chain Reaction n a PCR World," <u>PCR Methods and Applications</u> , 1:5-16 (1991)
		72	Gibbs et al., "Detection of Single DNA Base Differences by Competitive Oligonucleotide Priming," <u>Nucleic Acids Res.</u> , 17:2437-48 (1989)
		73	Chehab, et al., "Detection of Specific DNA Sequences by Fluorescence Amplification: A Color Complementation Assay," <u>Proc. Natl. Acad. Sci. USA</u> , 86:9178-82 (1989)
		74	Livak et al., "Detection of Single Base Differences Using Biotinylated Nucleotides With Very Long Linker Arms," <u>Nucleic Acids Res.</u> , 20:4831-37 (1989)

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		75	Nickerson et al., "Automated DNA Diagnostics Using an ELISA-Based Oligonucleotide Ligation Assay," <u>Proc. Natl. Acad. Sci. USA</u> , 87:8923-27 (1990)
		76	Cronin et al., "Cystic Fibrosis Mutation Detection by Hybridization to Light-Generated DNA Probe Arrays," <u>Human Mutation</u> , 7:244-255 (1996)
		77	Milner et al., "Selecting Effective Antisense Reagents on Combinatorial Oligonucleotide Arrays," <u>Nature Biotechnology</u> , 15:537-541 (1997)
		78	Wang et al., "Large-Scale Identification, Mapping, and Genotyping of Single-Nucleotide Polymorphisms in the Humane Genome," <u>Science</u> , 280:1077-1082 (1998)
		79	Southern, "DNA Chips: Analysing Sequence by Hybridization to Oligonucleotides on a Large Scale," <u>TIG</u> , 12(3):110-115 (1996)
		80	Barany, "Ligase Chain Reaction (LCR) - Overview and Applications," <u>PCR Methods and Applications</u> , 3(4):S51-S64 (1994)
		81	Iovannisci et al., "Ligation Amplification and Fluorescence Detection of Mycobacterium Tuberculosis DNA," <u>Mol. Cell. Probes</u> , 7(1):35-43 (1993)
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		82	Telenti et al., "Competitive Polymerase Chain Reaction Using an Internal Standard: Application to the Quantitation of Viral DNA," <u>J. Virol. Meth.</u> , 39(3):259-268 (1992)
		83	Guo et al., "Direct Fluorescence Analysis of Genetic Polymorphisms by Hybridization with Oligonucleotide Arrays on Glass Supports," <u>Nucl. Acids. Res.</u> , 22(24):5456-5465 (1994)
		84	Sambrook et al., <u>Molecular Cloning A Laboratory Manual</u> , 2 <sup>nd</sup> Ed., Cold Spring Laboratory Press (1989)
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	27	WO 94/17206	4-AUG-94	Europe			
	28	WO 94/11530	26-MAY-94	Europe			

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

	29	Kim et al., "Polymeric Self-Assembled Monolayers. 2. Synthesis and Characterization of Self-Assembled Polydiacetylene Mono- and Multilayers," <u>J. Am. Chem. Soc.</u> , 117:3963-3967 (1995)
	30	Lauer et al., "Cloning, Nucleotide Sequence, and Engineered Expression of <i>Thermus thermophilus</i> DNA Ligase, a Homolog of <i>Escherichia coli</i> DNA Ligase," <u>Journal of Bacteriology</u> , 173(16):5047-5053 (1991)
	31	Barany et al., "Cloning, Overexpression and Nucleotide Sequence of a Thermostable DNA Ligase-Encoding Gene," <u>Gene</u> , 109:1-11 (1991)
	32	Jou et al., "Deletion Detection in the Dystrophin Gene by Multiplex Gap Ligase Chain Reaction and Immunochromatographic Strip Technology, <u>Human Mutation</u> , 5:86-93 (1995)
	33	Chan et al., "Polymeric Self-Assembled Monolayers. 3. Pattern Transfer by Use of Photolithography, Electrochemical Methods, and an Ultrathin, Self-Assembled Diacetylenic Resist," <u>J. Am. Chem. Soc.</u> , 117:5875-5976 (1995)
EXAMINER		DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.		

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use several sheets if necessary)  (PTO-1449 )	ATTY. DOCKET NO.		SERIAL NO.
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	Herewith		To Be Assigned

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPRO- PRIATE
	34	5,412,087	05/02/95	McGall et al.			
	35	4,883,750	11/28/89	Whiteley et al.			
	36	4,683,202	07/28/87	Mullis et al.			
	37	5,744,305	04/28/98	Fodor et al.			
	38	5,695,934	12/09/97	Brenner			
	39	5,981,176	11/09/99	Wallace			
	40	5,415,839	5/16/95	Zaun et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRAN- SLATION IF APPRO- PRIATE
	41	WO 94/09022	04/28/94	WO			
	42	WO 90/11372	4/1990	WO			
	43	WO 93/25563	12/1993	WO			

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

7

	44	Munkholm et al., "Polymer Modification of Fiber Optic Chemical Sensors as a Method of Enhancing Fluorescence Signal for pH Measurement," <u>Anal. Chem.</u> , 58:1427-1430 (1986)
	45	Graham et al., "Gene Probe Assays on a Fibre-Optic Evanescent Wave Biosensor," <u>Biosensors &amp; Bioelectronics</u> , 7:487-493 (1992)
	46	Chetverin et al., "Sequencing of Pools of Nucleic Acids on Oligonucleotide Arrays," <u>BioSystems</u> , 30:215-231 (1993)
	47	Pease et al., "Light-Generated Oligonucleotide Arrays for Rapid DNA Sequence Analysis," <u>Proc. Natl. Acad. Sci. USA</u> , 91:5022-5026 (1994)
	48	Beattie et al., "Advances in Genosensor Research," <u>Clin. Chem.</u> , 41(5) 700-706 (1995)
EXAMINER		DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.		

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use several sheets if necessary)  (PTO-1449 )	ATTY. DOCKET NO.  <b>19603/3356</b>	SERIAL NO.  <b>To Be Assigned</b>
	APPLICANT  <b>Barany et al.</b>	
	FILING DATE  <b>Herewith</b>	GROUP ART UNIT  <b>To Be Assigned</b>

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPRO- PRIATE
	49	5,834,181	11/10/98	Shuber			
	50	5,648,213	7/15/97	Reddy et al.			
	51	5,667,974	9/16/97	Brikenmeyer			
	52	5,391,480	2/21/95	Davis et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANS- LATION IF APPRO- PRIATE

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

		53	Bains, "Mixed Hybridization and Conventional Strategies for DNA Sequencing," <u>Gata</u> , 10(3-4):84-94 (1993)
		54	Kuznetsova et al., "DNA Sequencing by Hybridization with Oligonucleotides Immobilized in a Gel," <u>Mol. Biol. (Mosk)</u> (Russia), 28(2):290-299
		55	Lysov et al., "Measurement of Distances Between DNA Segments Increases the Efficiency of Sequencing by Hybridization with Oligonucleotide Matrix," <u>Molecular Biology</u> , 28(3):433-436 (1994)
		56	Livshits et al., "Dissociation of Duplexes Formed by Hybridization of DNA with Gel-Immobilized Oligonucleotides," <u>Journal of Biomolecular Structure &amp; Dynamics</u> , 11(4):783-812 (1994)
		57	Davis et al., "Quantitative Detection of Hepatitis C Virus RNA With a Solid-phase Signal Amplification Method: Definition of Optimal Conditions for Specimen Collection and Clinical Application in Interferon-treated Patients," <u>Hepatology</u> , 19(6):1337-1341 (1994)
		58	Urdea, "Synthesis and Characterization of Branched DNA (bDNA) for the Direct and Quantitative Detection of CMV, HBV, HCV, and HIV," <u>Clinical Chemistry</u> , 39(4):725-726 (1993)
		59	Reynolds et al., "Analysis of Genetic Markers in Forensic DNA Samples Using the Polymerase Chain Reaction," <u>Anal. Chem.</u> , 63:2-15 (1991))
EXAMINER			DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

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	FILING DATE  <b>Herewith</b>	GROUP ART UNIT  <b>To Be Assigned</b>

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPRO- PRIATE
	60	6,027,889	2/22/00	Barany et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANS- LATION IF APPRO- PRIATE

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

		61	Buyse et al., "Rapid DNA Typing of Class II HLA Antigens Using the Polymerase Chain Reaction and Reverse Dot Blot Hybridization," <u>Tissue Antigens</u> , 41:1-14 (1993)
		62	Gyllenstein et al., "PCR-Based HLA Class II Typing," <u>PCR Meth. Appl.</u> , 1:91-98 (1991)
		63	Chamberlain et al., "Deletion Screening of the Duchenne Muscular Dystrophy Locus Via Multiplex DNA Amplification," <u>Nucleic Acids Res.</u> , 16:11141-56 (1988)
		64	Tsui, Mutations and Sequence Variations Detected in the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Gene: A Report From the Cystic Fibrosis Genetic Analysis Consortium," <u>Human Mutat.</u> , 1:197-203 (1992)
		65	Hollstein et al., "p53 Mutations in Human Cancers," <u>Science</u> , 253:49-53 (1991)
		66	Saiki, et al., "Enzymatic Amplification of $\beta$ -Globin Genomic Sequences and Restriction Site Analysis for Diagnosis of Sickle Cell Anemia," <u>Science</u> , 230:1350 (1985)
		67	Wu, et al., "The Ligation Amplification Reaction (LAR) -- Amplification of Specific DNA Sequences Using Sequential Rounds of Template-Dependent Ligation," <u>Genomics</u> , 4:560-69 (1989)
EXAMINER			DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use several sheets if necessary)  (PTO-1449 )	ATTY. DOCKET NO.  <b>19603/3356</b>	SERIAL NO.  <b>To Be Assigned</b>
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## U.S. PATENT DOCUMENTS

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## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRAN- SLATION IF APPRO- PRIATE

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

		68	Landegren, et al., "A Ligase-Mediated Gene Detection Technique," <u>Science</u> , 241:1077-80 (1988)
		69	Winn-Deen, et al., "Sensitive Fluorescence Method for Detecting DNA Ligation Amplification Products," <u>Clinical Chemistry</u> , 37(9):1522-23 (1991)
		70	Barany, "Genetic Disease Detection and DNA Amplification Using Cloned Thermostable Ligase," <u>Proc. Nat'l Acad. Sci. USA</u> , 88:189-93 (1991)
		71	Barany, "The Ligase Chain Reaction n a PCR World," <u>PCR Methods and Applications</u> , 1:5-16 (1991)
		72	Gibbs et al., "Detection of Single DNA Base Differences by Competitive Oligonucleotide Priming," <u>Nucleic Acids Res.</u> , 17:2437-48 (1989)
		73	Chehab, et al., "Detection of Specific DNA Sequences by Fluorescence Amplification: A Color Complementation Assay," <u>Proc. Natl. Acad. Sci. USA</u> , 86:9178-82 (1989)
		74	Livak et al., "Detection of Single Base Differences Using Biotinylated Nucleotides With Very Long Linker Arms," <u>Nucleic Acids Res.</u> , 20:4831-37 (1989)
EXAMINER			DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			



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## U.S. PATENT DOCUMENTS

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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANS- LATION IF APPRO- PRIATE

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

		75	Nickerson et al., "Automated DNA Diagnostics Using an ELISA-Based Oligonucleotide Ligation Assay," <u>Proc. Natl. Acad. Sci. USA</u> , 87:8923-27 (1990)
		76	Cronin et al., "Cystic Fibrosis Mutation Detection by Hybridization to Light-Generated DNA Probe Arrays," <u>Human Mutation</u> , 7:244-255 (1996)
		77	Milner et al., "Selecting Effective Antisense Reagents on Combinatorial Oligonucleotide Arrays," <u>Nature Biotechnology</u> , 15:537-541 (1997)
		78	Wang et al., "Large-Scale Identification, Mapping, and Genotyping of Single-Nucleotide Polymorphisms in the Human Genome," <u>Science</u> , 280:1077-1082 (1998)
		79	Southern, "DNA Chips: Analysing Sequence by Hybridization to Oligonucleotides on a Large Scale," <u>TIG</u> , 12(3):110-115 (1996)
		80	Barany, "Ligase Chain Reaction (LCR) - Overview and Applications," <u>PCR Methods and Applications</u> , 3(4):S51-S64 (1994)
		81	Iovannisci et al., "Ligation Amplification and Fluorescence Detection of Mycobacterium Tuberculosis DNA," <u>Mol. Cell. Probes</u> , 7(1):35-43 (1993)
EXAMINER			DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

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## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANS- LATION IF APPRO- PRIATE

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

		82	Telenti et al., "Competitive Polymerase Chain Reaction Using an Internal Standard: Application to the Quantitation of Viral DNA," <u>J. Virol. Meth.</u> , 39(3):259-268 (1992)
		83	Guo et al., "Direct Fluorescence Analysis of Genetic Polymorphisms by Hybridization with Oligonucleotide Arrays on Glass Supports," <u>Nucl. Acids. Res.</u> , 22(24):5456-5465 (1994)
		84	Sambrook et al., <u>Molecular Cloning A Laboratory Manual</u> , 2 <sup>nd</sup> Ed., Cold Spring Laboratory Press (1989)
EXAMINER			DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			